

# WE CLAIM AS OUR INVENTION

## PATENT CLAIMS

1. Method for connection setup for mobile stations (MS) of a radio communication system having at least one base station (BS), whereby

- frequency channels (FK) (rach)) for a random access are recurrently offered in upstream direction for the mobile stations (MS);
- the mobile station (MS) that requests a connection setup measures a reception power (rp) of a signal (ss) sent from the base station (BS) in downstream direction; and
- the mobile station (MS) sets a transmission power (tp) dependent on the measured reception power (rp) for sending an access radio block (rab) to the base station (BS).

2. Method according to claim 1, whereby the radio communication system is configured as TDMA/CDMA radio communication system, whereby information of a plurality of connections are simultaneously transmitted between the mobile stations (MS) and the base station (BS) in frequency channels (FK) formed by time slots (ts), whereby the information of different connections can be distinguished from one another according to a connection-individual fine structure.

3. Method according to claim 2, whereby the information of different connections are spread with individual codes (c).

4. Method according to one of the preceding claims, whereby the mobile station (MS) sets the transmission power (tp) all the higher the lower the measured reception power (rp) is.

5. Method according to one of the preceding claims, whereby the signal (ss) transmitted in downstream direction is a pilot signal (ps).

6. Method according to one of the claims 1 through 4, whereby the signal (ss) transmitted in downstream direction is a control signal (bcs) transmitted on the BCCH channel.

5 7. Method according to one of the claims 1 through 4, whereby the signal (ss) transmitted in downstream direction is a training sequence signal (tss).

8. Method according to one of the claims 1 through 4, whereby the signal (ss) transmitted in downstream direction is a data signal (ds).

10 9. Method according to one of the preceding claims, whereby the mobile station (MS) estimates a radio field attenuation in downstream direction on the basis of the measured reception power (rp) and sets the transmission power (tp) such that the radio field attenuation is at least partially compensated.

15 10. Method according to claim 9, whereby the mobile station (MS) sets the transmission power (tp) such that the radio field attenuation is completely compensated.

20 11. Method according to one of the preceding claims, whereby at least one auxiliary information (zui) is inserted into the signal (ss) sent in downstream direction, this being employed by the mobile station (MS) for setting the transmission power (tp).

25 12. Method according to claim 11, whereby the auxiliary information (zui) is composed of an information about the transmission power (rp' [sic]) used by the base station (BS) in downstream direction.

13. Method according to one of the preceding claims, whereby a broadband frequency range (B) is divided into sub-ranges (UB) having a

narrower bandwidth within the frequency channel (FK (rach)) for the random access, the mobile station (MS) that requests the connection setup selects a sub-range (UB) within the frequency channel (FK)(rach)), and the mobile station (MS) sends the access radio block (rab) to the base station (BS) in this sub-range (UP).

14. Method according to one of the preceding claims, whereby the access radio block (rab) is not spread.

15. Method according to one of the claims 1 through 13, whereby the access radio block (rab) is spread with an individual code (c1).

16. Mobile station (~~MS~~) for the implementation of the method according to claim 1, comprising

- a control panel (T) for triggering the random access;
- a signal processing means (SP) for measuring the reception power (rp) of the signal (ss) sent in downstream direction from the base station (BS) and for generating the access radio block (rab);
- a control means (ST) for setting the transmission power (tp) for the transmission of the access radio block (rab) to the base station (BS) dependent on the measured reception power (rp).

17. Base station (BS) for the implementation of the method according to claim 1, comprising:

- a signal processing means (SP) for generating the signal (ss) to be transmitted in downstream direction;
- a control means (ST) for setting a transmission power (rp'[sic]) for sending the signal (ss) to the mobile station (MS) that requests the connection setup.

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